

ABSTRACT

The application relates to the problem of improving the corrosion resistance and creep properties of standard Cr-steels like E911 (table 1) at high temperatures. To solve this problem, a method of adding up to 0.5 atomic % Hf both during casting or molding and by ion implantation is provided. The addition of Hf improves the corrosion resistance and creep properties inter alia, as it forms a finely distributed stable second phase and as the harmful M23C6 disappears, because all carbon is taken by Hf to form HfC.